

Work Order ID 73896 *LM*

Friday, September 16, 2011 3:46:59 PM



Page 1

Item ID: D206-642-151

Revision ID:

Item Name: Replacement Skidtube

Start Date: 9/16/2011 Start Qty: 1.00

Required Date: 10/21/2011 Req'd Qty: 1.00

Reference:

Accept



Setup Start



Stop



Cust Item ID:

Customer:

Approvals: Process Plan: *MLF*

Date: *11-09-19*

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3804	A								
IIN-D206-642	O								

100



0.00

DC

Document Control

DOCUMENT CONTROL

Memo

0.00

Photocopy bluefile & type labels per PPP D206-642-151

CHG001

*N/A*

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 73896

Friday, September 16, 2011 3:46:59 PM

Page 2

Item ID: D206-642-151

Accept

Revision ID:

Item Name: Replacement Skidtube

Start Date: 9/16/2011 Start Qty: 1.00

Required Date: 10/21/2011 Req'd Qty: 1.00

Reference:

Cust Item ID:

Customer:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start  
Stop

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool # Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

110



Skidtubes

Skidtubes

Skidtubes

Memo

0.00

1-Deburr Fwd edge of tube

2- Remove ridge on inside of Fwd edge of tube as per Dwg D3804

3-Weld Fwd Cap as per Dwg D3804. Use aluminum rod. Grind D2647 to fit as required.

Pick:

Qty ☐ Part Number ☐ Description ☐ Batch

A/R ☐ Aluminum Rod ☐ M112860

4-Grind weld flush to cap on top surface only.

5-Cut Aft end as per dwg D3804 from front of tube and Deburr

6-Remove inner indexing ridge on Aft end of skidtube as per Dwg D3804

7-Open holes for Aft end cap as per Dwg D3804 with #30 Drill Bit using DT8025.

8-Drill pilot holes using Dt8166 & DT8169D & DT9771.

9-Locate DT8732 from inner Aft saddle hole & 3rd crossbolt hole. Insert D3286-1 doubler using DT8732 & D206-642-241-T1, then locating doubler off of 3/16" holes, cleco DT8732 & doubler leaving DT8732 for added support.

10- Drill D3286-1 doubler rivet holes in tube using # 30 drill, spot drilling doubler at the same time.

M112860

BE 11/09/19

11-9-20

11-9-22

11/09/22

11/09/24

11-9-19

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 73896

Friday, September 16, 2011 3:46:59 PM



Page 3

Item ID: D206-642-151

Accept



Setup Start



Revision ID:

Item Name: Replacement Skidtube

Stop



Start Date: 9/16/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 10/21/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

11-Working from the center out, drill # 30 holes into D3286-1 doubler. Cleco each hole as it is being drilled. Verify angle of holes to accommodate rivet heads.

12-Remove 3/16" cleco's only and open GHW holes to Ø0.500" as per Dwg D3804

13-Remove D3286-1 doublers, identify orientation, deburr, then attach them to the workorder

14-Remove indexing edge using DT8741 as per Dwg D3804

15-C'sink GHW rivet holes as per Dwg D3804

16- Open Aft cap hole #6.  
\*\*\*\*no wearplate holes for this skidtube\*\*\*\*

17-Deburr tube and blow out chips from inside the tube

120



QC

Quality Control

QC6- Inspect dimensions to drawing

0.00

Memo

0.00

*8/10/12*

*11-9-27*

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
 Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Work Order ID 73896**

Friday, September 16, 2011 3:46:59 PM



Page 4

Item ID: D206-642-151

Accept



Setup Start



Revision ID:

Item Name: Replacement Skidtube

Stop



Start Date: 9/16/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 10/21/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140	Chemical Conversion Coat per QSI005 4.1	0.00							
	HandFinish								
Hand Finishing	Memo	0.00							
150	QC3- Inspect Part Finish	0.00							
	QC								
Quality Control	Memo	0.00							
160	Skidtubes	0.00							
	Skidtubes								
Skidtubes	Memo	0.00							
	1-Open holes to finished size as per Dwg D3804, (without cutting fluid)								
	2-C'sink crossbolt spacer holes as per Dwg D3804(without cutting fluid)								
	3-Deburr and blow out all chips from inside the tube								

DZ / DL 11/09/27

11/09/27

DP

11-9-28

DZ / DL 11/09/28

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



# Work Order ID 73896

Friday, September 16, 2011 3:46:59 PM



Page 5

Item ID: D206-642-151

Accept



Setup Start



Revision ID:

Item Name: Replacement Skidtube

Stop



Start Date: 9/16/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 10/21/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

170

QC6- Inspect dimensions to drawing

0.00

*[Signature]*

11-9-28



QC

Memo

0.00

Quality Control

180

Skidtubes

0.00



Skidtubes

Memo

0.00

Skidtubes

1-Locate, install and rivet doublers as per Dwg D3804. Micro-shave rivets as required

*Dh 11/09/28*

2-Bond D2654-3 web in place as per QSI 015. Ensure holes line up. Allow 12 Hrs. cure time before cutting

Start Date: ☒ 11/09/28 ☐ Time: ☒ 4:50 ☐  
Finish Date: ☐ ☐ Time: ☐

Pick:

Qty ☐ Part Number ☐ Description ☐ Batch

A/R ☐ Sikaflex-291 ☒ 118393 ☐

Sikaflex expire date: ☒ 12/04/05 ☐

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Work Order ID 73896**

Friday, September 16, 2011 3:46:59 PM



Page 6

Item ID: D206-642-151

Accept



Setup Start



Revision ID:

Item Name: Replacement Skidtube

Stop



Start Date: 9/16/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 10/21/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
---------	--------	-----------	------------	------------	---------------	-------------

190

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

DP 11-9-29

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 73896

Friday, September 16, 2011 3:46:59 PM



Page 7

Item ID: D206-642-151

Accept



Setup Start



Revision ID:

Item Name: Replacement Skidtube

Stop



Start Date: 9/16/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 10/21/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

200

0.00



Skidtubes

Skidtubes

Memo

0.00

1-remove alodine from around hole and prepare for welding

*OC/DL, 11/09/22*

*11/09/29*

2-Prep per QSI 005 and Insert D2649 crossbolt spacers. Weld as per QSI 004 and Dwg D3804. Remember to back drill each hole to 0.25" before welding the other side. Use aluminum rod.

Pick:

Qty ☐ Part Number ☐ Description ☐ Batch  
A/R ☐ Aluminum Rod ☐ *117884*

3-Grind welds flush as per Dwg D3804.

*B 11/09/29*

4-Using DT8733, insert (2) D3286-3 spacers as per QSI 004 and Dwg D3804. Remember to back drill each hole to 0.402" before welding other side. Use SS rod as required.

A/R ☐ SS Rod ☐ *None*

*OC/PMB 11/09/30*

5-Counterbore 5/16" x 0.750" deep except 7th hole from Aft end as per Dwg D3804. Deburr

*JD*

*11-10-1*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

1. The first step in the process is to identify the problem or issue that needs to be addressed. This involves gathering information and understanding the context of the problem.

2. Once the problem is identified, the next step is to define the objectives and goals of the project. This helps to clarify what needs to be achieved and provides a clear direction for the team.

3. The third step is to develop a plan or strategy to address the problem. This involves breaking down the problem into smaller, manageable tasks and determining the resources needed to complete each task.

4. The fourth step is to implement the plan. This involves putting the strategy into action and monitoring progress regularly to ensure that the project is on track.

5. The final step is to evaluate the results of the project. This involves comparing the actual outcomes with the original objectives and identifying any areas for improvement.

Page 8

**Accept**

\_\_\_\_\_

**Setup Start**

**Stop**

1. The first group of three lines is a header for the first section.
 2. The second group of three lines is a header for the second section.
 3. The third group of three lines is a header for the third section.
 4. The fourth group of three lines is a header for the fourth section.
 5. The fifth group of three lines is a header for the fifth section.
 6. The sixth group of three lines is a header for the sixth section.
 7. The seventh group of three lines is a header for the seventh section.
 8. The eighth group of three lines is a header for the eighth section.
 9. The ninth group of three lines is a header for the ninth section.
 10. The tenth group of three lines is a header for the tenth section.
 11. The eleventh group of three lines is a header for the eleventh section.
 12. The twelfth group of three lines is a header for the twelfth section.
 13. The thirteenth group of three lines is a header for the thirteenth section.
 14. The fourteenth group of three lines is a header for the fourteenth section.
 15. The fifteenth group of three lines is a header for the fifteenth section.
 16. The sixteenth group of three lines is a header for the sixteenth section.
 17. The seventeenth group of three lines is a header for the seventeenth section.
 18. The eighteenth group of three lines is a header for the eighteenth section.
 19. The nineteenth group of three lines is a header for the nineteenth section.
 20. The twentieth group of three lines is a header for the twentieth section.
 21. The twenty-first group of three lines is a header for the twenty-first section.
 22. The twenty-second group of three lines is a header for the twenty-second section.
 23. The twenty-third group of three lines is a header for the twenty-third section.
 24. The twenty-fourth group of three lines is a header for the twenty-fourth section.
 25. The twenty-fifth group of three lines is a header for the twenty-fifth section.
 26. The twenty-sixth group of three lines is a header for the twenty-sixth section.
 27. The twenty-seventh group of three lines is a header for the twenty-seventh section.
 28. The twenty-eighth group of three lines is a header for the twenty-eighth section.
 29. The twenty-ninth group of three lines is a header for the twenty-ninth section.
 30. The thirtieth group of three lines is a header for the thirtieth section.
 31. The thirty-first group of three lines is a header for the thirty-first section.
 32. The thirty-second group of three lines is a header for the thirty-second section.
 33. The thirty-third group of three lines is a header for the thirty-third section.
 34. The thirty-fourth group of three lines is a header for the thirty-fourth section.
 35. The thirty-fifth group of three lines is a header for the thirty-fifth section.
 36. The thirty-sixth group of three lines is a header for the thirty-sixth section.
 37. The thirty-seventh group of three lines is a header for the thirty-seventh section.
 38. The thirty-eighth group of three lines is a header for the thirty-eighth section.
 39. The thirty-ninth group of three lines is a header for the thirty-ninth section.
 40. The fortieth group of three lines is a header for the fortieth section.
 41. The forty-first group of three lines is a header for the forty-first section.
 42. The forty-second group of three lines is a header for the forty-second section.
 43. The forty-third group of three lines is a header for the forty-third section.
 44. The forty-fourth group of three lines is a header for the forty-fourth section.
 45. The forty-fifth group of three lines is a header for the forty-fifth section.
 46. The forty-sixth group of three lines is a header for the forty-sixth section.
 47. The forty-seventh group of three lines is a header for the forty-seventh section.
 48. The forty-eighth group of three lines is a header for the forty-eighth section.
 49. The forty-ninth group of three lines is a header for the forty-ninth section.
 50. The fiftieth group of three lines is a header for the fiftieth section.
 51. The fifty-first group of three lines is a header for the fifty-first section.
 52. The fifty-second group of three lines is a header for the fifty-second section.
 53. The fifty-third group of three lines is a header for the fifty-third section.
 54. The fifty-fourth group of three lines is a header for the fifty-fourth section.
 55. The fifty-fifth group of three lines is a header for the fifty-fifth section.
 56. The fifty-sixth group of three lines is a header for the fifty-sixth section.
 57. The fifty-seventh group of three lines is a header for the fifty-seventh section.
 58. The fifty-eighth group of three lines is a header for the fifty-eighth section.
 59. The fifty-ninth group of three lines is a header for the fifty-ninth section.
 60. The sixtieth group of three lines is a header for the sixtieth section.
 61. The sixty-first group of three lines is a header for the sixty-first section.
 62. The sixty-second group of three lines is a header for the sixty-second section.
 63. The sixty-third group of three lines is a header for the sixty-third section.
 64. The sixty-fourth group of three lines is a header for the sixty-fourth section.
 65. The sixty-fifth group of three lines is a header for the sixty-fifth section.
 66. The sixty-sixth group of three lines is a header for the sixty-sixth section.
 67. The sixty-seventh group of three lines is a header for the sixty-seventh section.
 68. The sixty-eighth group of three lines is a header for the sixty-eighth section.
 69. The sixty-ninth group of three lines is a header for the sixty-ninth section.
 70. The seventieth group of three lines is a header for the seventieth section.
 71. The seventy-first group of three lines is a header for the seventy-first section.
 72. The seventy-second group of three lines is a header for the seventy-second section.
 73. The seventy-third group of three lines is a header for the seventy-third section.
 74. The seventy-fourth group of three lines is a header for the seventy-fourth section.
 75. The seventy-fifth group of three lines is a header for the seventy-fifth section.
 76. The seventy-sixth group of three lines is a header for the seventy-sixth section.
 77. The seventy-seventh group of three lines is a header for the seventy-seventh section.
 78. The seventy-eighth group of three lines is a header for the seventy-eighth section.
 79. The seventy-ninth group of three lines is a header for the seventy-ninth section.
 80. The eightieth group of three lines is a header for the eightieth section.
 81. The eighty-first group of three lines is a header for the eighty-first section.
 82. The eighty-second group of three lines is a header for the eighty-second section.
 83. The eighty-third group of three lines is a header for the eighty-third section.
 84. The eighty-fourth group of three lines is a header for the eighty-fourth section.
 85. The eighty-fifth group of three lines is a header for the eighty-fifth section.
 86. The eighty-sixth group of three lines is a header for the eighty-sixth section.
 87. The eighty-seventh group of three lines is a header for the eighty-seventh section.
 88. The eighty-eighth group of three lines is a header for the eighty-eighth section.
 89. The eighty-ninth group of three lines is a header for the eighty-ninth section.
 90. The ninetieth group of three lines is a header for the ninetieth section.
 91. The ninety-first group of three lines is a header for the ninety-first section.
 92. The ninety-second group of three lines is a header for the ninety-second section.
 93. The ninety-third group of three lines is a header for the ninety-third section.
 94. The ninety-fourth group of three lines is a header for the ninety-fourth section.
 95. The ninety-fifth group of three lines is a header for the ninety-fifth section.
 96. The ninety-sixth group of three lines is a header for the ninety-sixth section.
 97. The ninety-seventh group of three lines is a header for the ninety-seventh section.
 98. The ninety-eighth group of three lines is a header for the ninety-eighth section.
 99. The ninety-ninth group of three lines is a header for the ninety-ninth section.
 100. The hundredth group of three lines is a header for the hundredth section.

**Cust Item ID:**[illegible]

**Customer:**

**Reference:**

**Approvals:**      **Process Plan:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **Tooling:** \_\_\_\_\_ **Date:** \_\_\_\_\_  
**QC:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **SPC (Y/N):** \_\_\_\_\_ **Date:** \_\_\_\_\_

Run Start

**Stop**

### Operation Description

### Set Up/ Run Hours

## Tool ID

Tool #

## Plan Code

**Accept Qty**

Reject  
QtyReject  
Number

# Insp. Stamp

1. The first step is to identify the problem or question that needs to be addressed. This involves understanding the context and the specific requirements of the task.

2. Next, it is important to gather relevant information and data. This can be done through research, consultation with experts, or by analyzing existing data sets.

3. Once the information is gathered, the next step is to analyze it. This involves identifying patterns, trends, and potential solutions. It is important to consider all possible options and weigh their pros and cons.

4. After analysis, a decision must be made. This involves selecting the most appropriate solution based on the available information and the specific requirements of the task.

5. Finally, the chosen solution must be implemented. This involves putting the plan into action and monitoring the results to ensure that the problem is effectively solved.

## HandFinishing

0.00

HandFinish

## Memo

0.00

## Hand Finishing

Install D2680-041 Nut Plate as per Dwg D3804

\_\_\_\_\_

QC10- Inspect visual per QSI004- ground welds

0.00

QC

## Memo

000

## Quality Control

\_\_\_\_\_

QC5- Inspect part completeness to step on W/O

0.00

QC

## Memo

0.00

## Quality Control

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Work Order ID 73896

Friday, September 16, 2011 3:46:59 PM



Page 9

Item ID: D206-642-151

Accept



Setup Start



Revision ID:

Item Name: Replacement Skidtube

Stop



Start Date: 9/16/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 10/21/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
240	Pressure Wash per QSI005 4.3	0.00							
	HandFinish	0.00							
	Hand Finishing								
	Memo								
250	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00							
	Powdercoat	0.00							
	Powder Coating								
	Memo								
	START TIME: 10:20								
	OVEN TEMPERATURE: 320								
	FINISH TIME: 10:30								
260	QC3- Inspect Part Finish	0.00							
	QC	0.00							
	Quality Control								
	Memo								

1x4 m-14/10/04

1x4 m-14/10/05

1 x 4 m-14/10/05

m118439

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 73896

Friday, September 16, 2011 3:46:59 PM



Page 10

Item ID: D206-642-151

Accept



Setup Start



Revision ID:

Item Name: Replacement Skidtube

Stop



Start Date: 9/16/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 10/21/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

270

0.00



HandFinishing

HandFinish

Memo

0.00

Hand Finishing

1-Install D2651-3 O-Rings on D2651-1 plugs with Petroleum Jelly and install plugs as per Dwg D3804. Clean excess adhesive.

1 0 11/10/09

280

0.00



HandFinishing

HandFinish

Memo

0.00

Hand Finishing

1-Install D2646 Aft Cap and seal with Sikaflex. Clean excess adhesive

A/R ☐ Sikaflex-291 ☐ 11/18/09

Sikaflex expire date: ☐ 12/05

2- Install wearplate as per dwg

2-Wing Walk as per Dwg D3804 and QSI 005 4.4

Batch: 11/18/09

1 0 11/10/09

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 73896

Friday, September 16, 2011 3:46:59 PM



Page 12

Item ID: D206-642-151

Accept



Setup Start



Revision ID:

Item Name: Replacement Skidtube

Stop



Start Date: 9/16/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 10/21/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

320

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

11/10/20

MF 11-10-19

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

Friday, September 16, 2011 3:46:56 PM

Page 1

Work Order ID: 73896

Parent Item: D206-642-151

Parent Item Name: Replacement Skidtube

Start Date: 9/16/2011

Required Date: 10/21/2011

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP REV:A 10.12.08 PER IIN REV.N DD VERF:EC  
REV:B 11.09.16 PER IIN REV.O DD VERF:EC IPP

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D2620



Skidtube, 206 Skidtube

Manufactured

No

110

Each

12.0000

1

1



Location

LG 73781  
68136  
71616  
71617

Loc Qty

12  
1  
5  
6

Loc Code

1  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

MO/D 11-9-19

D2647



Cap

Manufactured

No

110

Each

44.0000

1

1



Location

LG002  
55352  
71171

Loc Qty

44  
14  
30

Loc Code

1  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

BBN/09/9

CR3212-4-04



Cherry Rivet

Purchased

No

180

Each

1,655.000

52

52



Location

ST311  
116471  
117816  
118686  
118840

Loc Qty

1655  
78  
477  
100  
1000

Loc Code

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
52

Dh 11/09/20

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Friday, September 16, 2011 3:46:56 PM

Page 2

Work Order ID: 73896

Parent Item: D206-642-151

Parent Item Name: Replacement Skidtube

Start Date: 9/16/2011

Required Date: 10/21/2011

Start Qty: 1.00

Required Qty: 1.00

D2654-1

Manufactured No

180

Each

6.0000

1

1



Web

Location

Loc Qty

Loc Code

LG

6

64562

6

Manufactured No

180

Each

32.0000

2

2

D3286-1



Doubler

Location

Loc Qty

Loc Code

LG002

32

52844

11

64563

21

Manufactured No

200

Each

289.0000

19

19

D2649



Cross Bolt Spacer

Location

Loc Qty

Loc Code

LG

6

68224

2

71355

2

72704

2

LG001

283

65317

1

68507

11

73390

271

Manufactured No

200

Each

27.0000

2

2

D3286-3



Spacer

Location

Loc Qty

Loc Code

LG002

27

64564

27



74117-

Friday, September 16, 2011 3:46:56 PM

Shop Packet Print

Page 2

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
 Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Friday, September 16, 2011 3:46:56 PM

Page 3

Work Order ID: 73896

Parent Item: D206-642-151

Parent Item Name: Replacement Skidtube

Start Date: 9/16/2011

Required Date: 10/21/2011

Start Qty: 1.00

Required Qty: 1.00

D2680-041

Manufactured No

210 Each

19.0000

1

1



Nut Plate



(1)

BB 11/10/08

Location

Loc Qty

Loc Code

ST020

73854

19

55366

17

70088

2

CR3212-4-03

Purchased No

210 Each

1,138.000

2

2



Cherry Rivet



(2)

BB 11/10/08

Location

Loc Qty

Loc Code

FP-B

2

110139

2

ST311

1136

114859

1136

AN960JD416

NAS1149D04631

Purchased No

210 Each

0.0000

1

1



Washer



(x1) M 11/10/08

CCR264SS3-3

Purchased No

210 Each

435.0000

2

2



Cherry Rivet



(2)

BB 11/10/08

Location

Loc Qty

Loc Code

FP-B

2

113973

2

ST311

433

117086

23

117849

410

Friday, September 16, 2011 3:46:56 PM

Shop Packet Print

Page 3

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Friday, September 16, 2011 3:46:56 PM

Page 4

Work Order ID: 73896

Parent Item: D206-642-151

Parent Item Name: Replacement Skidtube

Start Date: 9/16/2011

Required Date: 10/21/2011

Start Qty: 1.00

Required Qty: 1.00

MS27039-4-06

Purchased

No

210

Each

29.0000

1

1



Screw



11/10/09

## Location

## Loc Qty

## Loc Code

FP-A

8

115460

8

ST292

21

115460

21

x1

D2651-1

Manufactured

No

270

Each

289.0000

6



Plug



11/10/09

## Location

## Loc Qty

## Loc Code

fpa

109

69018

109

FP-A

180

57869

1

66445

10

67760

36

70691

100

70839

2

71037

31

x6

D2651-3

Manufactured

No

270

Each

799.0000

6



O-Ring



11/10/09

## Location

## Loc Qty

## Loc Code

FP-A

799

61962

12

66956

282

73489

505

x6

Friday, September 16, 2011 3:46:56 PM

Shop Packet Print

Page 4

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
 Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

Friday, September 16, 2011 3:46:56 PM

Page 5

Work Order ID: 73896

Parent Item: D206-642-151

Parent Item Name: Replacement Skidtube

Start Date: 9/16/2011

Required Date: 10/21/2011

Start Qty: 1.00

Required Qty: 1.00

D3873-1

Manufactured No

280

Each

160.0000

14

14



Bushing



M 11/10/06

Location

Loc Qty

Loc Code

ST084

4

B73399

x3

68247

4

ST088

156

64760

1

70690

54

71837

101

x9

D2646

Manufactured No

280

Each

89.0000

1

1



Aft Cap



M 11/10/06

Location

Loc Qty

Loc Code

FP004

45

68280

45

FP006

5

62678

5

FP-4

35

70945

1

71070

34

fp5

4

71038

4

x1

D3805-041

Manufactured No

280

Each

0.0000

1

1



Wearplate Assembly Fwd, Low Gear

B73370



(x1) M 11/10/06

Friday, September 16, 2011 3:46:56 PM

Shop Packet Print

Page 5

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Friday, September 16, 2011 3:46:56 PM

Page 6

Work Order ID: 73896

Parent Item: D206-642-151

Parent Item Name: Replacement Skidtube

Start Date: 9/16/2011

Required Date: 10/21/2011

Start Qty: 1.00

Required Qty: 1.00

MS27039-1-08

Purchased

No

280

Each

1,296.000

2

2



Screw



HL 11/10/06

Location

Loc Qty

Loc Code

ST29I

1296

115108

96

117423

300

118378

400

118910

500

X2

MS21042L3

Purchased

No

280

Each

2,603.000

7

7



Nut



HL 11/10/06

Location

Loc Qty

Loc Code

ST300

2603

117441

24

117601

374

117885

205

118451

1000

118927

1000

X2

D3805-045

Manufactured

No

280

Each

6.0000

1

1



Wearplate Assembly Aft, Low Gear

1117

B73771



HL 11/10/06

Location

Loc Qty

Loc Code

FP

6

70878

6

AN960JD10L

NAS1149D0332J

Purchased

No

280

Each

0.0000

2

2



Washer

1117 087



(X2) HL 11/10/06

Friday, September 16, 2011 3:46:57 PM

Shop Packet Print

Page 6

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Friday, September 16, 2011 3:46:57 PM

Page 7

Work Order ID: 73896

Parent Item: D206-642-151

Parent Item Name: Replacement Skidtube

Start Date: 9/16/2011

Required Date: 10/21/2011

Start Qty: 1.00

Required Qty: 1.00

AN3-37A

Purchased

No

280

Each

261.0000

7

7



Bolt



XL

11/10/06

## Location

## Loc Qty

## Loc Code

ST353

211

111668

111

118628

100

ST354

50

117619

50

NAS1149D0363J

Purchased

No

280

Each

2,623.000

7

7



Washer



XL

11/10/06

## Location

## Loc Qty

## Loc Code

ST298

2623

117601

308

118077

1315

118612

1000

XL

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

ITEM	Qty -041	Qty -043	Part Number	Description
1	X		D3804-041	SKIDTUBE ASSEMBLY, 206 A/B LOW
2		X	D3804-043	SKIDTUBE ASSEMBLY, 206 A/B HIGH
5	1	1	D2600-1-160	EXTRUSION
6	1	1	D2646	AFT CAP
7	1	1	D2647	CAP
8	19	20	D2649	CROSS BOLT SPACER
9	6	8	D2651-1	PLUG
10	6	8	D2651-3	O-RING
11		1	D2654-3	WEB
12	1		D2654-1	WEB
13	1	1	D2680-041	NUT PLATE
14	2	2	D3286-1	DOUBLER
15	2	2	D3286-3	STUD
21	2	2	AN960JD10L	WASHER
22	1	1	AN960JD416	WASHER
23	2	2	CCR264SS3-3	RIVET
24	2	2	CR3212-4-03	RIVET
25	52	52	CR3212-4-04	RIVET
26	2	2	MS27039-1-08	SCREW
27	1	1	MS27039-4-06	SCREW

#### NOTES

- 1) MATERIAL: N/A
- 2) FINISH: -CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
-POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 3) BLACK ANTI-SKID PAINT AS INDICATED TO 0.5 ABOVE LOCATION RIDGE PER DART QSI 005 4.4
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) UNITS: INCHES UNLESS OTHERWISE NOTED
- 6) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 7) IDENTIFICATION: NONE
- 8) WEIGHT: 12.5 lb
- 9) WELD PER DART QSI 004
- 10) BENDING: DAMAGE TOLERANCE ON FWD BEND:  
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 5 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020 DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.
- 11) BOND WEB INTO OUTER TUBE WITH SIKAFLEX-241/-291 ADHESIVE PER DART QSI 015
- 12) INSERT D2651-1 PLUG C/W D2651-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE)

**RELEASED**  
 09.03.03  
 PC ECN 09-598

A	NEW ISSUE	MB	08.07.07
REV.	DESCRIPTION	BY	DATE
DESIGN	99	DART AEROSPACE USA, INC	
DRAWN	99	PORT HADLOCK, WA	
CHECKED	99	DRAWING NO.	REV. A
MFG. APPR.	99	D3804	SHEET 1 OF 5
APPROVED	99	TITLE	SCALE
DE APPR.	99	SKIDTUBE ASSEMBLY, 206A/B	NTS
DATE	08.07.07	COPYRIGHT © 2008 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATIONS TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

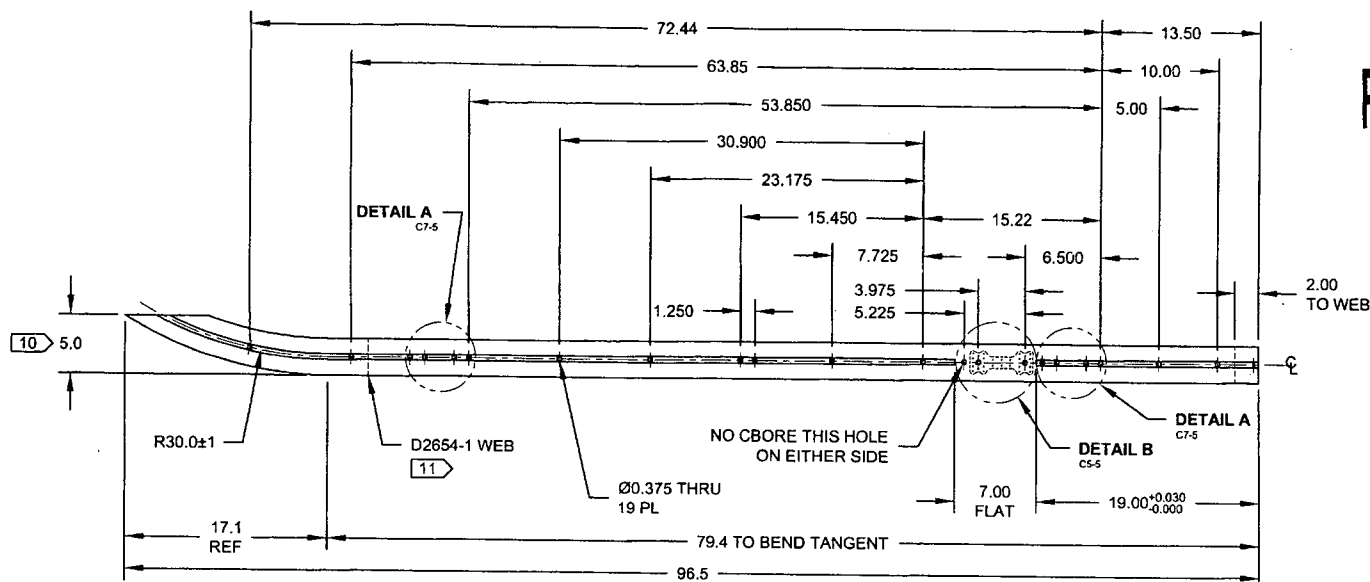
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

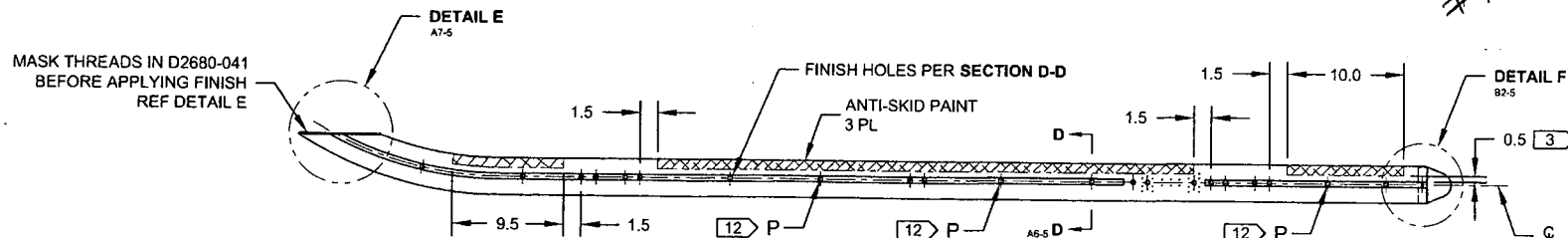


RELEASED  
09.03.03



**D3804-041 BENDING/DRILLING DETAIL**

#73896



**D3804-041 ASSEMBLY/FINISHING DETAIL**

DESIGN	99	<b>DART AEROSPACE USA, INC</b>	
DRAWN	99	PORT HADLOCK, WA	
CHECKED	99	DRAWING NO.	REV. A
MFG. APPR.	99	D3804	SHEET 2 OF 5
APPROVED	99	TITLE	SCALE
DE APPR.	99	SKIDTUBE ASSEMBLY, 206A/B	NTS
DATE	08.07.07	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC	
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.			

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

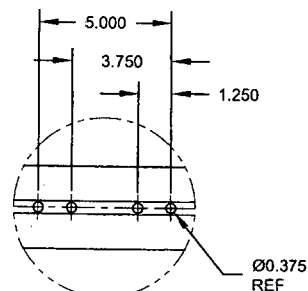
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

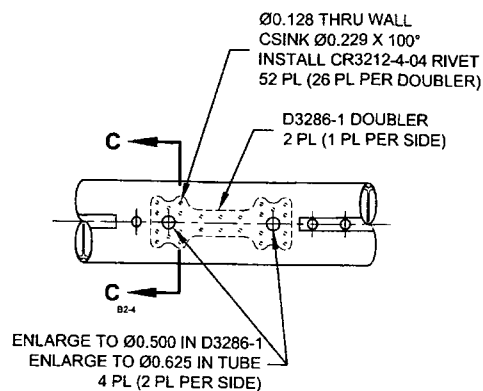
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

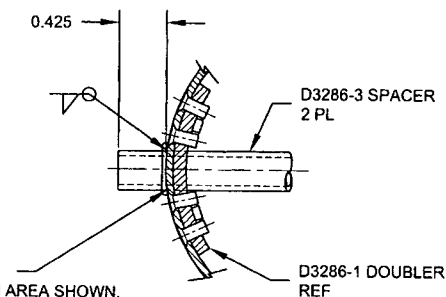
RELEASED  
CP 09.03.03



**DETAIL A** D6-2  
C2-2  
D6-3  
C2-3  
SCALE NONE

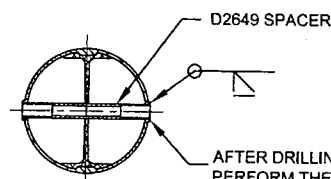


**DETAIL B** C3-2  
C3-3  
SCALE NONE



- TO INSTALL D3286-1/-3:
1. GRIND OFF FLANGE IN AREA SHOWN, FLUSH WITH OUTSIDE SURFACE OF ROUND TUBE
  2. LOCATE & DRILL D3286-1 DOUBLER USING DT3286-1T1
  3. ENLARGE HOLES IN D3286-1 TO Ø0.500
  4. ENLARGE HOLES IN TUBE TO Ø0.625 AND CHAMFER HOLE 0.03 X 45°
  5. RIVET D3286-1 TO TUBE
  6. INSERT D3286-3 SPACER
  7. WELD IN PLACE AND GRIND FLUSH

**SECTION C-C** C6-4  
PARTIAL SECTION  
SCALE NONE



- AFTER DRILLING AND BENDING ASSEMBLY PERFORM THE FOLLOWING FOR Ø0.375 HOLES ONLY:
1. CHAMFER HOLE 0.03 X 45°
  2. INSERT D2649 SPACER
  3. WELD INTO PLACE AND GRIND FLUSH
  4. CBORER TO Ø0.313 X 0.75 DP (EXCEPT WHERE INDICATED)

**SECTION D-D** A4-2  
A4-3  
FOR Ø0.375 HOLES ONLY  
SCALE NONE

#7596

DESIGN	99	<b>DART AEROSPACE USA, INC</b>	
DRAWN		PORT HADLOCK, WA	
CHECKED	99	DRAWING NO.	REV.
MFG. APPR.	99	D3804	SHEET 4 OF 5
APPROVED	99	TITLE	SCALE
DE APPR.	99	SKIDTUBE ASSEMBLY, 206A/B	NTS
DATE	08.07.07	COPYRIGHT © 2008 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COPIED OR REPRODUCED IN ANY MANNER WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

**Part No:** \_\_\_\_\_ **PAR #:** \_\_\_\_\_ **Fault Category:** \_\_\_\_\_ **NCR:** Yes No **DQA:** \_\_\_\_\_ **Date:** \_\_\_\_\_  
**Resolution:** \_\_\_\_\_ **Disposition:** \_\_\_\_\_ **QA: N/C Closed:** \_\_\_\_\_ **Date:** \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:-** Date & initial all entries

RELEASED  
69.03.03

CCR264SS3-3  
RIVET  
2 PL

CR3212-4-03 RIVET  
2 PL

**VIEW G-G**  
SCALE NONE  
A7-5

0.400

END OF WEB

SEAL WITH  
SIKAFLEX-241/291

D2646 AFT CAP

Ø0.204  
REF

MS27039-1-08 SCREW  
AN960JD10L WASHER  
2 PL

BORE OUT END  
OF SKIDTUBE  
TO 0.75 DEPTH  
AND 0.070 WALL

**DETAIL F**  
SCALE NONE  
B2-2  
B2-3

473896

D2647 CAP, TO INSTALL:  
1. CUT TUBE LEVEL  
2. REMOVE RIDGE ON FWD SIDE  
3. LOCATE D2647 (TRIM AS REQD)  
4. WELD D2647 IN PLACE  
5. GRIND FLUSH  
6. RIVET D2680-041 NUT PLATE  
IN PLACE

MS27039-4-06 SCREW  
AN960JD416 WASHER

D2680-041  
NUTPLATE

1.0 REMOVE RIDGE ON  
INSIDE OF SKIDTUBE  
LEAVE 0.070 MIN.

**DETAIL E**  
SCALE NONE  
B7-2  
B7-3

DESIGN	99	<b>DART AEROSPACE USA, INC</b>	
DRAWN	J	PORT HADLOCK, WA	
CHECKED	45	DRAWING NO.	REV. A
MFG. APPR.	B	D3804	SHEET 5 OF 5
APPROVED	140	TITLE	SCALE
DE APPR.	14	SKIDTUBE ASSEMBLY, 206A/B	NTS
DATE	08.07.07	COPYRIGHT © 2008 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED IN ANY MANNER WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



NO. 267

AWS D17.1.2001  
QUALIFICATION TEST RECORD

Name: Pat Ewers  
Job number: 73212  
Part number: A206-642-541  
Description: Skid tube  
Welding Process: Tig[☒] Mig[☒]  
Base material: Aluminum  
Current: AC[☒] DC[☐]

TEST REQUIREMENTS AND RESULTS

Visual:  
Penetration:

pass[☒] fail[☐  
pass[☒] fail[☐

UNACCEPTABLE

Cracks:  
Undercut:  
Pin holes:  
Overlap (cold lap)  
Porosity (surface):  
Coloration:

pass[☒] fail[☐  
pass[☒] fail[☐  
pass[☒] fail[☐  
pass[☒] fail[☐  
pass[☒] fail[☐  
pass[☒] fail[☐

Qualifier David Aival Date of Test Coupon 11.09.26  
Welder Pat Ewers Date of Test Coupon 11.09.26

The above named individual is qualified in accordance with AWS D17.1.2001 to weld

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries